

Summary of Vaccine Preventable Diseases Reported to the Michigan Department of Health and Human Services, 2020

This is a summary of reported cases of selected vaccine-preventable diseases in Michigan in 2020. Totals for 2019 are provided for comparison in the table on the final page.

Note: case totals presented here may vary somewhat from other publications owing to differences in date variables used. These totals are based on date of case report to the Michigan public health system and CDC-defined dates for the report year.

Congenital Rubella – No cases of congenital rubella were reported in 2020.

Diphtheria – No cases of diphtheria were reported in Michigan in 2020.

***Haemophilus influenzae* invasive disease –**

There were 11 cases of invasive *Haemophilus influenzae* disease reported in 2020 in Michigan in children under 15 years of age. Cases ranged in age from newborn to 6 years. *H. influenzae* was isolated from blood in 4 cases, blood and CSF in 3 cases, CSF in 1 case, pleural fluid in 1 case, joint fluid in 1 case, and unknown in 1 case. One case was caused by *H. influenzae* serotype b, a 2 month-old infant who had not yet received vaccination. Among the other cases there were 2 serotype a, 2 serotype f, 4 non-typeable cases, and 2 that were not serotyped.

Measles – There were no cases of measles reported in 2020.

Meningococcal disease –

Three cases of invasive meningococcal disease were reported in 2020, all in adults between 50 and 83 years of age. None of the cases were in an age group or risk group specifically recommended to receive meningococcal vaccination, and none had received vaccine. Serogrouping of cultured isolates was successful for each of the three cases, one was serogroup C, one was serogroup X, and one was serogroup B.

Mumps –

There were 10 reported mumps cases in 2020, none meet the Confirmed classification criteria, five were Probable and five were Suspect. There were no outbreaks identified and there were no identified connections or epidemiologic linkage among the cases.

Pertussis –

There was a total of 157 pertussis cases reported in 2020, compared to 537 in 2019, a decline of over 70%. The reduction in cases might be attributable to COVID-19 pandemic mitigation measures which would likely also reduce other respiratory-spread infections such as pertussis. Cases ranged in age from 30 days to 90 years (mean 28.9 years, median 13 years), and 53.5% were female. Cases were reported from 28 counties. There were no identified outbreaks reported. There was one death reported which involved a 5 week-old male infant who was born premature at 32 weeks gestation who had multiple problems from birth including apnea of prematurity and feeding difficulties and remained in the NICU. He tested positive for pertussis by PCR at 4 weeks of age and was treated with azithromycin; the source of infection was not identified. He was also culture for *S. marcescens* from an endotracheal tube two days prior to death. No autopsy was performed and the exact contribution to death that pertussis played, if any, is not definitively known.

Rubella –

There were no rubella cases in Michigan in 2020.

Tetanus –

There were no cases of tetanus in 2020.

Varicella –

There were 185 cases of varicella reported in Michigan in 2020, a 57% decrease from the 430 cases reported the prior year. As with pertussis, this decline may reflect reduced disease transmission as a result of COVID-19 mitigation efforts. Cases ranged in age from 15 days to 80 years (mean 14.0 years, median 7 years), and 51.9% were male. 7 cases were admitted to the hospital. There were 4 outbreaks (defined as 2 or more cases), the largest of which consisted of 5 cases. Outbreak settings involved an elementary school, a pre-school, and two separate households.

Table 1 - Number of reported cases of selected vaccine preventable diseases,
Michigan, 2019 and 2020 (Confirmed and Probable cases unless otherwise noted).

Disease	Total Cases 2020	Total Cases 2019
Congenital Rubella	0	0
Diphtheria	0	0
<i>H. influenzae</i> invasive <15 years (serotype b)	11 (1)	24 (0)
Measles	0	46
Meningococcal disease	3	7
Mumps (includes Suspect)	10	29
Pertussis	157	537
Poliomyelitis	0	0
Rubella	0	0
Tetanus	0	1
Varicella	185	430